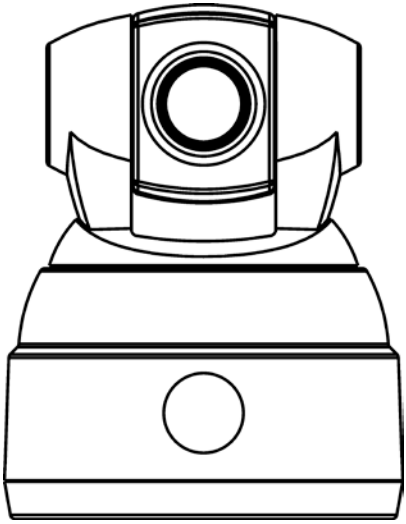
Meicheng®

INSTALLATION & USER MANUAL



SD / HD Lock-N-Track PTZ Camera

IS-LT01 & IS-LT03

www.meicheng.com.tw

Safety Notes

Read all safety rules and instructions carefully before starting to install and run the device.

1. Refer to trained and qualified personnel to do the installation and maintenance, pay attention to local electricity rules. Keep the safety notes and instructions for future reference.

2. When you open the box and take out the camera parts, avoid shock to them, any man-made damage to the device does not fit the warranty.

3. Make sure the installation related materials or places can stand up to 4 times the weight of the device.

4. Always use the power adaptor (DC12V) provided with device, do not overload the electrical power and the extensions that may cause unexpected damage to the device.

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About the product

Features

The SD / HD Lock-N-Track PTZ camera(hereinafter referred to as camera) adopts the most advanced intelligent video analysis technology to detect, lock and track moving object; it can realize smooth tracking performance automatically without extra sensor(s). It can precisely lock the moving object in the center of the image, convenient to use.

With its stability, easy-to-use and excellent performance, it is widely used in electronic classroom, technical training and video conferencing room, etc.

Characteristics & Functions

- Supports up to 1080p resolution, 20x optical zoom.
- With advanced image algorithm to detect and track moving object, excellent tracking performance with high stability.
- Automatically Lock-N-Track moving object, when tracking, any change of light, object's gesture, interference of other moving object , light source or video from projector will not affect the tracking effect.
- Smooth tracking performance, no shaking image.
- With smooth and soft auto zooming function, always keep the object in the center of image with appropriate size.
- Easy to set effective tracking area and other value.
- Easy and simple installation, debugging and operation.

Operation Instructions

Address, baud rate and protocol

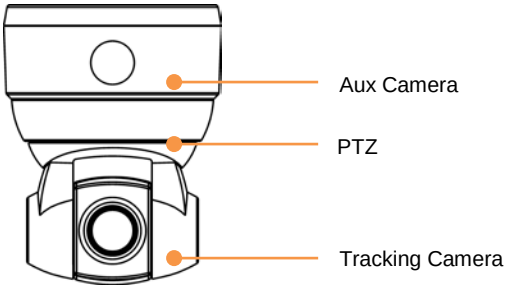
Every camera has its fixed address (1), baud rate(9600bps) and protocol (Pelco D), set these settings accordingly from your controller to control.

Save and call preset

Preset function is that camera saves current horizontal angle, tilt angle of pan/tilt, zoom and position parameters into memory. When necessary camera calls these parameters and adjusts Pan/Tilt/Zoom to that position accordingly. User can save and call preset easily and promptly by using keyboard controller, DVR or other controllers.

Product Structure

The device consists of aux camera and tracking camera, see below picture.



Loc-N-Track PTZ Camera

Tracking camera: does pan/tilt/zoom, locks moving object to track, thus to get clear image of the tracked object.

Aux camera: detects moving object and then does video analysis, by communicating with tracking camera, drives the tracking camera to track moving object. All settings are set in Aux camera's OSD menu.

Technical Parameters

Item	Specifications	
	IS-LT01	IS-LT03
Video System	PAL/NTSC	**HD:**1080p/30,1080p/29.97, 1080p/25,1080i/60,1080i/59.94,1080i/50,720p/60,720p/59.94,720p/50,720p/30, 720p/29.97,720p/25 **SD:** NTSC(CROP), NTSC(SQUEEZE), PAL(CROP),PAL(SQUEEZE)
Image Sensor	1/4 inch SONY EXview HAD	1/2.8inch Exmor CMOS Sensor
Effective Pixel	752(H)×582(V)	3.27megapixel
Resolution	550TVL	-
Optical Zoom	18x	20x
Digitall Zoom	12x	12x
Video Output	1.0±0.2Vp p:75Ω composite	-
S/N	≥50dB	
Min. Illumination	0.02Lux	0.095 Lux(F1.6, ICR on)
Synchronization	Internal	
BLC	Open / Close / Auto	
Lens	F1.4,f=4.1~73.8mm	(F1.6-F3.5),f=4.7mm-94mm
Field of View	Wide 48°/ Tele 2.8°	1080 p mode: Wide 55.4°/ Tele 2.9° 720p mode: Wide 37.6° / Tele 2.0°
P/T Speed	Pan（0.1°~150°/sec）; Tilt（0.1°~120°/sec）	
P/T Angle	Pan: 340°; Tilt: -30~90°	
Preset Number	64	
Video Output Interface	VBS	HD: Analog Component(Y/Pb/Pr), SD: VBS
Control Interface	RS-485	
Baud Rate	9600BPS	
Protocol	PELCO-D	
Working Temp	0℃~+50℃	
Storage Temp	-20℃~+70℃	
Humidity	0~95（non-condensing）	
Power Supply	DC 12V	
Power	＜20W	
Dimension	160(D)×206(H)mm	

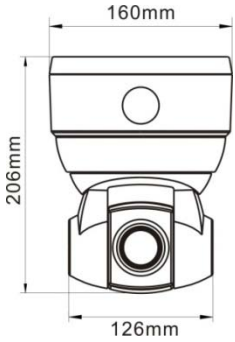
Parts List

The camera supports Pole or Stand installations, when you open the box, please check below lists carefully; if you found missing parts, please contact your supplier, otherwise the installation cannot be completed.

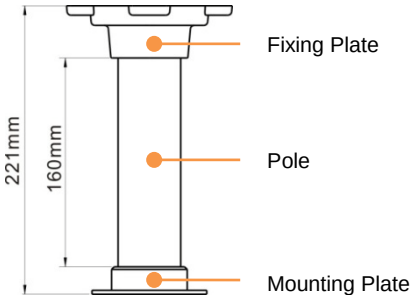
Item in package	Quantity	Unit
PTZ Camera	1	PC
Aviation Plug	1	PC
Optional pole installation parts		
Pole Bracket	1	PC
Pole Base	1	PC
Optional tripod installation parts		
Tripod with Cylinder	1	PC

Size and Dimension Chart

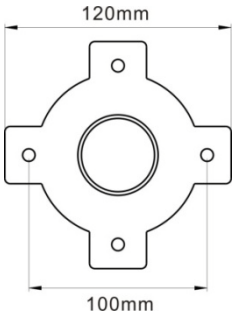
Size and hole dimension chart



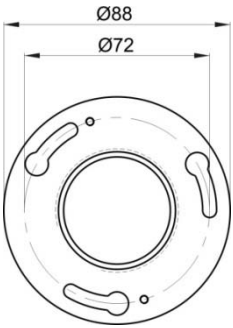
Size Dimension of Camera



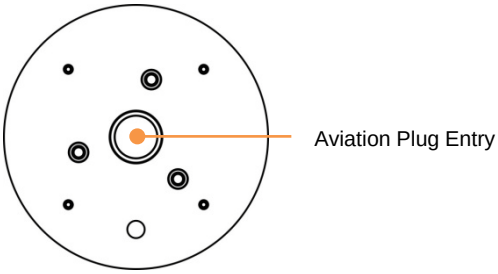
Pole Bracket Size



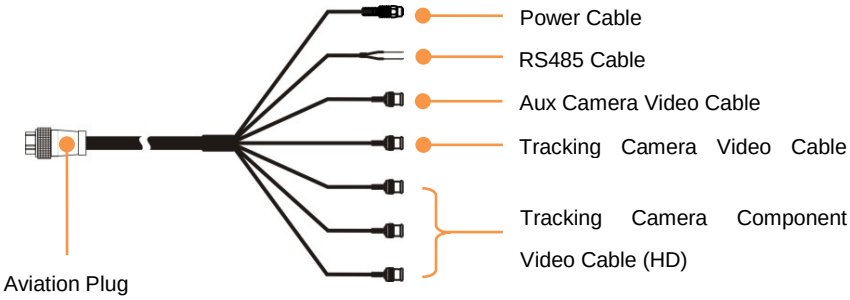
Hole Locations of Fixing Plate



Size Dimension of Mounting Plate



Cable Connecting Interface at Camera Base



Camera Pole Mount Installation Steps

Before installing, locate correctly the position of the pole according to its horizontal angle; make sure the aux camera is pointed directly to the blackboard.

Pole bracket installation

Pull the aviation plug through the pole bracket; reserve enough length of cable outside the pole bracket that is used for further installation; then, according to hole dimension of the fixing plate, fix the pole bracket, by using setscrews, onto the ceiling.

Pole base installation

Pull the aviation plug through the pole base, then fix the pole base and pole bracket by the screw thread.

[Note] must fix tightly to ensure safety.

Cable connection

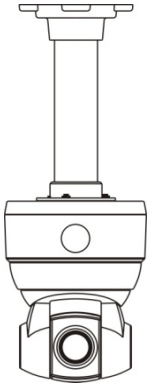
After fixing the pole bracket, connect the aviation plug to the related interface at the camera base. Make sure to connect correctly, and then tighten it.

Camera Installation

Fix the three bolts at the camera base to the pole base's three holes, and then tighten it.

[Note] Make sure the aux camera is pointing directly to the blackboard; otherwise, adjustment to the pole position is required to reposition.

Then screw up the two bolts from the pole base to the camera base, fix the camera's horizontal position. Finally the installation is finished as below picture.



Finished Installation Picture

Installation Notes

Camera must be installed in the right ahead of blackboard with distance 7~10 meters, suggested distance from the camera to floor is 2.7 meters.

[Note1]	Keep the camera base at the horizontal position.
[Note2]	Make sure the aux camera is pointed directly to the blackboard.

Start Up Information

After the camera is powered up, the tracking camera will do self-testing by its pan and tilt direction, then reaches its preset number 1. Before the tracking camera reaches preset number 1, the aux camera will pop-up below window. After tracking camera reaches preset number 1, it will start auto tracking. If moving object appears in the scene, there will be red rectangular frame around the moving object.

Address: 1, Pelco-D, 9600

Call 80# to begin tracking

Call 95# to set parameters

Ver 1.4

Camera Control

Our keyboard controller, remote controller, other PC based control software or any other controllers can be used to control the camera. However, address, baud rate and protocol from controller should be set exactly the same as the camera's actual settings.

Below Chart shows the available presets and their relative functions for camera control and value settings.

Presets & Functions

Preset	Function
1	starting tracking position
2	Closest tracking position
3	Close-up tracking position, work with ultrasonic locator
4-64	Regular preset positions
80	Call this preset to start auto tracking
81	Call this preset to stop tracking
83	Auto iris mode

84	Manual iris mode
86	Auto WB mode
87	Set manual WB to push and trigger mode
90	Manual focus mode
91	Auto focus mode
92	Image flip on of tracking camera
93	Image flip off of tracking camera
95	Call this preset to enter / exit menu
96	Set this preset to save values

For HD version (the tracking camera is HD camera), below chart shows also the presets & related functions to switch from different video outputs.

[Note] when switching video outputs, the camera must be stopped from tracking and its OSD menu was exited. After switching, rebooting is required to take the new video output into effect.

HD Video Output Switch

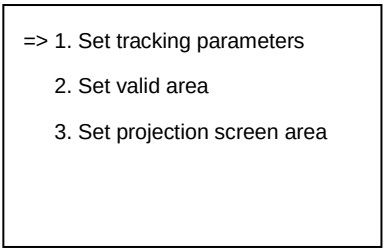
Preset	Video Output Switch		
Model	IS-LT01	IS-LT02	IS-LT03
111	1080i/59.94		1080i/59.94
112	720p/59.94		720P/59.94
113	NTSC(CROP)		NTSC(CROP)
114	NTSC(SQ)		NTSC(SQ)
115	1080i/50		1080i/50
116	720p/50		720p/50
117	PAL(CROP)		PAL(CROP)
118	PAL(SQ)		PAL(SQ)
119	-		1080i/59.94
120	-		1080p/30
121	-		1080p/29.97
122	-		1080p/25
123	-		720p/59.94
124	-		720p/30
125	-		720p/29.97
126	-		720p/25

After powering up, the camera automatically gets into tracking mode. If tracking settings needs to be made, the camera must be stopped from tracking.

The way to judge whether the camera is on tracking or non-tracking status is: if there is red character shown, it is on non-tracking status.

In non-tracking mode, CALL preset 95 to enter / exit main menu. Press Iris OPEN button of your controller to confirm, then gets into submenu.

➤ CALL preset 95 to get into main menu



1. Set tracking parameters： has 4 submenus, set according to actual requirement.

2. Set valid area：has 6 submenus, set according to actual working environment.

3. Set projection screen area： has 4 sub-menus, set once projector is used in actual working environment.

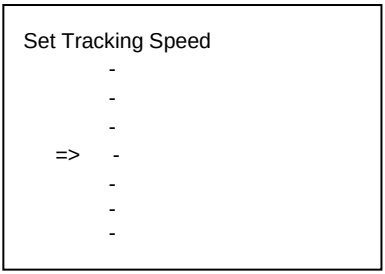
After settings are made from every further sub-menu, Set preset 96 to save current settings. If no setting is made from every further sub-menu, Set preset 96 will exit the menu without saving settings. If setting needs to be made again, Call preset 95 to get into menu again and Set preset 96 to save settings again

Tracking Setting

Sub-menu 1.Set tracking parameters has below settings: Set Tracking Speed, Set Tracking Sensitivity, Auto Zoom (on/off) and Auto Tilt Motion (on/off).

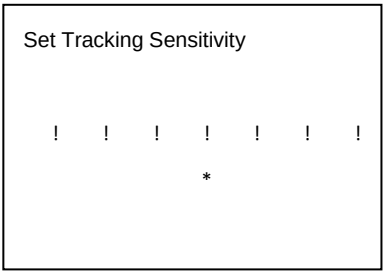
Set Tracking Speed

➤ Scroll to 1. Set tracking parameters, press OPEN to confirm and get into Set Tracking Speed.



There are 7 levels, camera defaults middle level; scroll up / down to choose from different levels. Scroll up to increase speed, scroll down to decrease speed, press OPEN to confirm, and then get into Set Tracking Sensitivity.

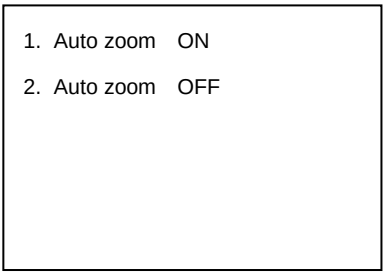
Set Tracking Sensitivity



If tracked object's moving range is large but you want the camera to keep still, then decrease the tracking sensitivity by moving the cursor rightwards. If the tracked object's moving range is large and you want the camera to move accordingly, increase the tracking sensitivity by moving the cursor leftwards.

➤ Choose from 7 tracking sensitivity levels, press OPEN to confirm and get into Auto Zoom Setting.

Auto Zoom (on/off)



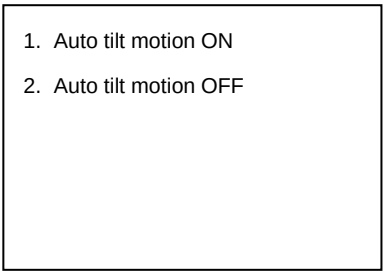
Auto Zoom On: camera will auto zoom when tracking.

Auto Zoom Off: camera will not auto zoom when tracking.

[Note] If the tracked area is small, Auto Zoom Off is suggested.

➢ Choose from ON /OFF options, press OPEN to confirm and get into Auto Tilt Motion Setting.

Auto Tilt Motion (on/off)



Auto Tilt Motion On: camera will tilt when tracking.

Auto Tilt Motion Off: camera will not tilt when tracking.

➢ Choose from ON /OFF options, press OPEN to confirm. This is the last step of Set Tracking Parameters

At this step, Set preset 96 to confirm settings.

[Note] Should be Set instead of Call preset 96. Then below window will pop up indicating the settings are saved, Call preset 95 to exit the menu

Save track parameters complete!

Call 95# again to exit setting

After preset 95 is called, it will exit OSD and below window pops up.

Exit, Track parameters saved.

Address：1, Pelco-D, 9600

Call 80# to begin tracking

Call 95# to set parameters

If, in the last step, Set preset 96 has not been conducted but preset 95 is called to exit menu, then below window will pop up indicating that the setting has not been saved. Call preset 95 to get into menu again and set until the final step and Set preset 96 to save settings again.

[Note] Even if the settings are not saved, the settings are valid before rebooting.

Exit, Track parameters NOT saved !!

Address：1, Pelco-D, 9600

Call 80# to begin tracking

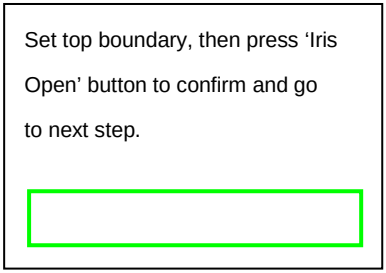
Call 95# to set parameters

Set valid tracking area

➢ Scroll to 2. Set valid area, press OPEN to confirm and get into Set Top Boundary .

Set Top Boundary

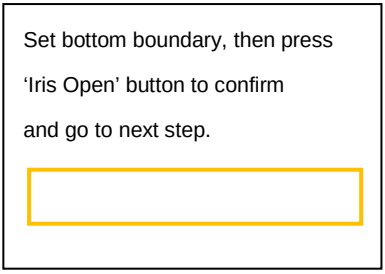
➢ A green rectangular frame and instructions will pop up.



➢ Move the rectangular up/down to set the top boundary; suggested to set abreasting to the upper side of blackboard. Press OPEN to confirm and get into Set Bottom Boundary .

Set Bottom Boundary

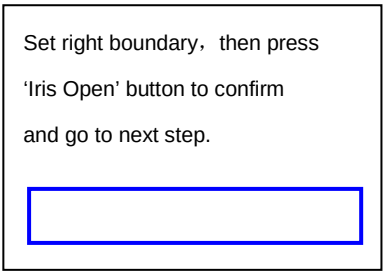
➢ A yellow rectangular frame and instructions will pop up.



➤ Move the rectangular up/down to set the bottom boundary, suggested to set abreasting to the first row of students. Press OPEN to confirm and get into Set Right Boundary.

Set Right Boundary

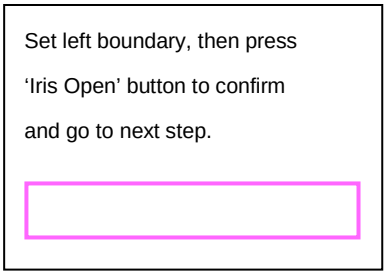
➤ A blue rectangular frame and instructions will pop up..



➤ Move the rectangular up/down to set the right boundary, suggested to set to a rightmost position where the lecturer can reach. Press OPEN to confirm and get into Set Left Boundary

Set Left Boundary

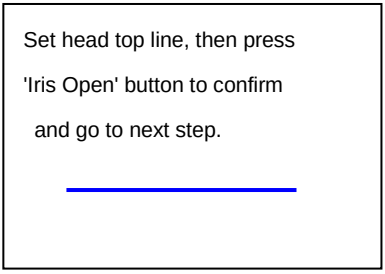
➤ A cherry rectangular frame and instructions will pop up..



➤ Move the rectangular up/down to set the left boundary, suggested to set to a leftmost position where the lecturer can reach. Press OPEN to confirm and get into Set Head Top Line .

Set Head Top Line

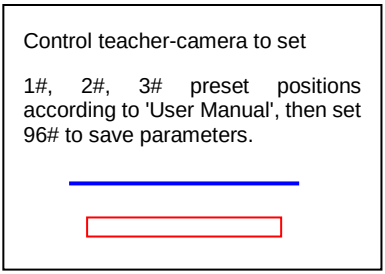
➤ A blue horizontal line and instructions will pop up..



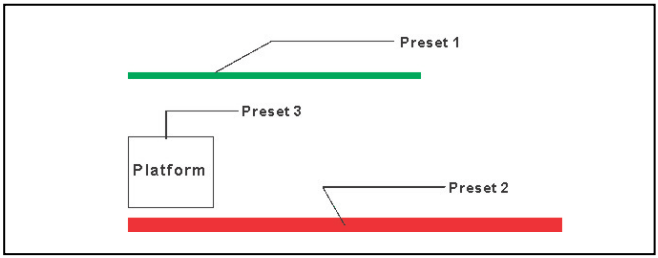
➤ From the blackboard, draw a horizontal line that is 1.7 meter high from the floor, move the blue horizontal line to fit the horizontal line on the blackboard. Press OPEN to confirm and get into Set Preset 1, 2 and 3 setting.

Set Preset 1, 2 and 3

➤ A red rectangular frame and instructions will pop up..



➢ At this step, moving up/down/left/right and zoom of the camera is possible; if in other menu / sub-menu, movement from controller can only move the cursor or image in the menu. This is the last step of 2. Set valid area, to set preset 1,2 and 3, see below sketch for details.



Preset 1

Preset 1 is the starting position for tracking, for example, the lecturer is 1.7 meter tall standing in front of the blackboard, his/her head is of the same height as the green line; move the camera's pan/tilt/zoom to put the lecturer in the appropriate position and size in the image, then set it as preset 1; this position is the actual tracking position where lecturer stands the closest to the blackboard.

Preset 2

Preset 2 is the closest tracking position, have the lecturer walk down platform, put his/her head inside the red rectangular frame; move the camera's pan/tilt/zoom to put the lecturer in the appropriate position and size in the image; this position is the actual closest tracking position where the camera is the closest to the lecturer.

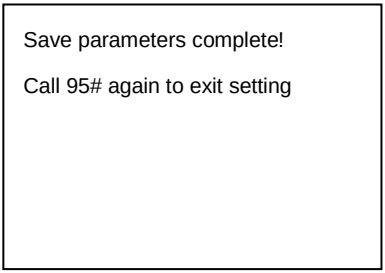
Preset 3

Preset 3 is the close-up preset, in case the lecturer stands still in front of the platform for a long time when lecturing and the camera keeps tracking. With ultrasonic locator installed in front of the platform and Set preset 3 accordingly, once the locator detects the lecturer, the camera will automatically locate at preset 3 without tracking other object(s).

Thus, usually when setting preset 3, based on platform, move the tracking camera to a position that covers the lecturer's appropriate position and size. Preset 3 can also be set at any other position if required.

[Note] For proper tracking performance, Preset 1 should be set at the position where camera reaches its appropriate big zoom tele (6x for example) and highest vertical height; and the preset 2 should be set at the position where camera reaches its appropriate small zoom wide (with biggest view angle, 2x for example) and lowest vertical height. That is, the preset 2 has more expanded view angle and lower vertical height. Otherwise, the values cannot be saved.

Finally, Set preset 96 to save the boundaries and presets; when saving, window shows "Saving parameters……", wait until below window pops up and Call preset 95 to exit menu



Set Projection Screen Area

This part includes 4 steps, which are the same as the settings of "Setting valid tracking area". After setting, Set preset 96 to save settings.

[Note] the area can be set according to the actual projection area in the projection screen, no need to cover the whole screen.

Anti-projector interference function (Open / Close)

To open anti-projector interference, set the bottom boundary of the projection area higher than the bottom boundary of valid tracking area, Set preset 96 to save setting.

To close it, set the bottom boundary of the projection area lower than the bottom boundary of valid tracking area, then the camera will figure out that there is no projection area and the anti-projector interference function will be closed.

The anti-projection interference function is closed in default setting.

Start/Stop Tracking

After powered up, the camera automatically starts tracking.

Call preset 81 to stop tracking.

Call preset 80 to start tracking.

Menu is only accessible in non-tracking mode; and tracking can only be activated after existing menu.

Problem	Possible Cause	Solution
Power up but no action or image	Power supply failure	Check power supply
	Switch power supply failure	Change switch power supply
	Power cable is disconnected	Reconnect power cable
Self-testing but no image	Video cable is not correctly connected	Reconnect video cable
	Camera is defective	Change camera
Self-testing does not proceed, or with noise	Not enough power	Check power cable
	Mechanical failure	Need repairing
Tracking target not in the center of image	Pan / Tilt compensation problem	Get into main menu to adjust pan/tilt compensation parameters
“Tilt logic error” when saving valid area parameters	Tilt height of 1# preset from tracking camera is lower than tilt height of 2# preset	Get into main menu and adjust tilt height of 1# to be more than 2# preset
“Zoom logic error” when saving valid area parameters	Zooming times of 1# preset from tracking camera is less than zooming times of 2# preset	Get into main menu and set the zooming times of 1# preset to be more than 2# preset.

Meicheng Audio Video Co., Ltd.
Address: 13F., No.2, Jian 8th Rd., Zhonghe Dist., New Taipei City 235, Taiwan
TEL: 886-2-82280311 FAX: 886-2-82280319 E-mail: mei.cheng@msa.hinet.net